

## ABSTRACT

Presence of free insulin receptor  $\alpha$ -subunit in blood was discovered. Furthermore, methods for measuring the insulin receptor  $\alpha$ -subunit was provided, the method comprising the steps of contacting the insulin receptor  $\alpha$ -subunit in a blood sample with an antibody recognizing the insulin receptor  $\alpha$ -subunit, and detecting the binding between the two. Measurement of the free insulin receptor  $\alpha$ -subunit in the blood is useful for evaluating risk factors for diabetes.

In addition, the measurement methods of the present invention showed that concentrations of the free insulin receptor  $\alpha$ -subunit in the blood of diabetes or cancer patients are significantly high. Free insulin receptor  $\alpha$ -subunit in blood is useful as a marker for diabetes or cancer.